Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the instant application:

What is claimed is:

1.   (Currently Amended)   A method for supporting a user application <u>in a grid environment</u> comprising the steps of:

providing a customer service application configured to register a plurality of hosts <u>operating in a plurality of grids</u> for performing host-based operations and to convey control signals for synchronizing a plurality of ghost agents <u>operating in said plurality of grids</u> for performing customer service operations on one of the plurality of hosts, the customer service application having a service interface configured to prevent unauthorized access to the customer service application;

receiving a problem indication relating to said application;

identifying at least one of the plurality of hosts <u>operating</u> within a grid <u>of said grid environment</u>;

associating a ghost agent <u>within said grid</u> with said at least one identified host, said ghost agent being configured to include at least one of a test engine, a ghost log, and a controller, wherein the test engine loads test routines into said ghost agent, executes the test routines in response to received test commands, and analyzes within said ghost agent results of the executed test routines, wherein the ghost log stores log data internally within said ghost agent and, periodically or at irregular intervals, deposits the log data to a local location, after which the ghost agent clears the ghost log, [[and]] wherein said controller accepts control signals from the customer service application and controls at least one of a life-span of said ghost agent and resources used by said ghost agent<u>, and</u>

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wherein said ghost agent is configured to replicate at least one action of said at least one identified host within said grid;

retrieving log data stored at the local location and conveying the retrieved log data to a ghost log repository using at least one data-reaping object ~~agent~~;

~~replicating actions of said at least one identified host for use by said ghost agent;~~

recording data relating to said replicated actions; [[and]]

responding to said problem based at least in part upon said recorded data

moving said at least one identified host from said grid to another grid within said grid environment; and,

in response to said moving of said at least one identified host, moving said ghost agent from said grid to said another grid.

2.   (Previously Presented)   The method of claim 1, wherein said receiving step receives said problem indication from a user, wherein said associating step is performed responsive to receiving said problem indication, wherein said at least one identified host of said associating step represents said user, and wherein said responding step further comprises using said recorded data to determine actions of said user that resulted in said problem.

3.   (Original)   The method of claim 1, further comprising the step of:

providing a customer service interface, wherein a customer service representative utilizes said customer service interface during said responding step.

4.   (Original)   The method of claim 1, said responding step further comprising the

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step of:

executing a test using said ghost agent, wherein said test utilizes said recorded data.

5. (Original) The method of claim 1, wherein said responding step further comprises the step of:

performing a debugging operation using said ghost agent, wherein said debugging operation utilizes at least one replicated action.

6. (Original) The method of claim 1, further comprising the step of:

comparing said recorded data with at least one operational threshold provided by said ghost agent, such that said recorded data includes results of said comparing step.

7. (Previously Presented) The method of claim 1, further comprising the steps of:

automatically detecting a problem within said user application; and

automatically generating said problem indication responsive to said detecting step.

8. (Original) The method of claim 1, further comprising the step of:

responsive to receiving said problem indication, automatically routing application activity from an area of said grid environment in which said problem occurred to an alternative area of said grid environment.

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9.   (Original)   The method of claim 1, further comprising the step of:

automatically fixing said problem based at least in part upon said recorded data.

10.   (Currently Amended) The method of claim 1, further comprising the steps of:

selecting more than one of said plurality of hosts; and

for each selected host, repeating said associating step, said replicating step, said

recording step, [[and]] said responding step, and said moving steps.

11.   (Original)   The method of claim 1, further comprising the steps of:

identifying a location that is external to said ghost agent; and

conveying said recorded data to said identified location.

12.   (Cancelled)   The method of claim 1, further comprising the steps of:

moving said at least one identified host within said grid environment; and

moving said ghost agent within said grid environment in accordance with a

movement of said host.

13.   (Currently Amended) The method of claim 1, further comprising the steps of:

disassociating said ghost agent from said at least one identified host; and

associating said ghost agent with a different host within said grid.

14.   (Currently Amended)   A customer service environment comprising:

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a plurality of hosts, wherein said hosts are software objects for an application domain distributed within a grid environment, said grid environment being a distributed computing system that includes a plurality of hardware and software components;

at least one ghost agent configured to be associated with at least one of said hosts to replicate and record at least one action of said at least one of said host, wherein said ghost agent moves within a grid environment and is configured to include at least one of a test engine, a ghost log, and a controller, said test engine configured to load test routines into said ghost agent, execute the test routines in response to received test commands, and analyze within said ghost agent results of the executed test routines, said ghost log configured to store log data internally within said ghost agent and, periodically or at irregular intervals, deposit the log data to a local location, after which the ghost agent clears the ghost log, and said controller configured to accept control signals from an external source and control at least one of a life-span of said ghost agent and system resources used by said ghost agent;

at least one data-reaping object agent for retrieving log data stored at the local location and conveying the retrieved log data to a ghost log repository;

a customer service application configured to register the plurality of hosts for performing host-based operations to determine actions leading to at least one problem utilizing the at least one associated ghost agent and to convey control signals for synchronizing a plurality of ghost agents for performing customer service operations on one of the plurality of hosts, the customer service application having a service interface configured to prevent unauthorized access to the customer service application,

wherein at least a portion of said hosts move from one grid within said grid environment to another grid, and wherein said ghost agents responsively move from said one grid to said another grid in response to movement of said associated host.

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15.   (Original)   The customer service environment of claim 14, wherein said customer service application is further configured to debug said at least one reported problem using said ghost agents.

16.   (Original)   The customer service environment of claim 14, further comprising:

a service data store communicatively linked to a plurality of ghost agents, wherein said service data store is configured to record data generated by said ghost agents for use by said customer service application.

17.   (Currently Amended)   A machine-readable storage having stored thereon, a computer program having a plurality of code sections, said code sections executable by a machine for causing the machine to perform the steps of:

providing a customer service application configured to register a plurality of hosts operating in a plurality of grids in a grid environment for performing host-based operations and to convey control signals for synchronizing a plurality of ghost agents operating in said plurality of grids for performing customer service operations on one of the plurality of hosts, the customer service application having a service interface configured to prevent unauthorized access to the customer service application;

receiving a problem indication relating to a user application;

identifying at least one of the plurality of hosts operating within a grid of said grid environment;

associating a ghost agent within said grid with said at least one identified host, said ghost agent being configured to include at least one of a test engine, a ghost log, and

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a controller, wherein the test engine loads test routines into said ghost agent, executes the test routines in response to received test commands, and analyzes within said ghost agent results of the executed test routines, wherein the ghost log stores log data internally within said ghost agent and, periodically or at irregular intervals, deposits the log data to a local location, after which the ghost agent clears the ghost log, [[and]] wherein said controller accepts control signals from an external source and controls at least one of a life-span of said ghost agent and resources used by said ghost agent, and wherein said ghost agent is configured to replicate at least one action of said at least one identified host within said grid;

retrieving log data stored at the local location and conveying the retrieved log data to a ghost log repository using at least one data-reaping object agent;

~~replicating actions of said at least one identified host for use by said ghost agent;~~

recording data relating to said replicated actions; [[and]]

responding to said problem based at least in part upon said recorded data

moving said at least one identified host from said grid to another grid within said grid environment; and,

in response to said moving of said at least one identified host, moving said ghost agent from said grid to said another grid.

18.   (Original)   The machine-readable storage of claim 17, wherein said receiving step receives said problem indication from a user, wherein said associating step is performed responsive to receiving said problem indication, wherein said host of said associating step represents said user, and wherein said responding step further comprises using said recorded data to determine actions of said user that resulted in said problem.

19.   (Original)   The machine-readable storage of claim 17, further comprising the step of:

   providing a customer service interface, wherein a customer service representative utilizes said customer service interface during said responding step.

20.   (Original)   The machine-readable storage of claim 17, said responding step further comprising the step of:

   executing a test using said ghost agent, wherein said test utilizes said recorded data.

21.   (Original)   The machine-readable storage of claim 17, wherein said responding step further comprises the step of:

   performing a debugging operation using said ghost agent, wherein said debugging operation utilizes at least one replicated action.

22.   (Original)   The machine-readable storage of claim 17, further comprising the step of:

   comparing said recorded data with at least one operational threshold provided by said ghost agent, such that said recorded data includes results of said comparing step.

23.   (Previously Presented)   The machine-readable storage of claim 17, further comprising the steps of:

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automatically detecting a problem within said user application; and

automatically generating said problem indication responsive to said detecting step.

24. (Currently Amended)   The machine-readable storage method of claim 17, further comprising the step of:

responsive to receiving said problem indication, automatically routing application activity from an area of said grid environment in which said problem occurred to an alternative area of said grid environment.

25. (Original)   The machine-readable storage of claim 17, further comprising the step of:

automatically fixing said problem based at least in part upon said recorded data.

26. (Currently Amended)   The machine-readable storage of claim 17, further comprising the steps of:

selecting more than one of said plurality of hosts; and

for each selected host repeating said associating step, said replicating step, said recording step, [[and]] said responding step, and said moving steps.

27. (Original)   The machine-readable storage of claim 17, further comprising the steps of:

identifying a location that is external to said ghost agent; and

conveying said recorded data to said identified location.

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28.   (Cancelled)

29.   (Currently Amended)   The machine-readable storage of claim 17, further comprising the steps of:

disassociating said ghost agent from said host; and

associating said ghost agent with a different host within said grid.

30.   (Currently Amended)   A system for supporting an application within a grid environment comprising the steps of:

a customer service application configured to means for registering a plurality of hosts operating in a plurality of grids in said grid environment for performing host-based operations and to convey control signals for synchronizing a plurality of ghost agents in said plurality of grids for performing customer service operations on one of the plurality of hosts, the customer service application having a service interface configured to prevent unauthorized access to the customer service application;

means for receiving a problem indication relating to said application;

means for identifying a host within a grid of said grid environment;

means for associating a ghost agent within said grid with said host, said ghost agent being configured to include at least one of a test engine, a ghost log, and a controller, wherein the test engine loads test routines into said ghost agent, executes the test routines in response to received test commands, and analyzes within said ghost agent results of the executed test routines, wherein the ghost log stores information internal to said ghost agent, [[and]] wherein said controller accepts control signals from an external

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source and controls at least one of a life-span of said ghost agent and resources used by said ghost agent, and wherein said ghost agent is configured to replicate at least one action of said at least one identified host within said grid;

~~at least one data-reaping agent~~ means for retrieving log data stored at the local location and conveying the retrieved log data to a ghost log repository;

~~means for replicating actions of said host for use by said ghost agent;~~

means for recording data relating to said replicated actions; [[and]]

means for responding to said problem based at least in part upon said recorded data;

moving said at least one identified host from said grid to another grid within said grid environment; and,

means for moving said ghost agent from one grid to within said grid environment to another grid in response to moving said host from said one grid to said another grid.